

Appl. No. 09/581,345  
Amdt. dated May 28, 2004  
Amendment under 37 CFR 1.116 Expedited Procedure  
Examining Group

PATENT

**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1-112. Canceled.

113. (Previously presented) An isolated anti-mesothelin antibody comprising a variable heavy ("V<sub>H</sub>") chain and a variable light ("V<sub>L</sub>") chain, which V<sub>H</sub> and V<sub>L</sub> chains have complementarity-determining regions ("CDRs") as set forth in Figure 1 (SEQ ID NO:5).

114. (Previously presented) An antibody of claim 113, wherein said V<sub>H</sub> and V<sub>L</sub> chains comprise framework regions ("FRs") as set forth in Figure 1 (SEQ ID NO:5).

115. (Previously presented) An antibody of claim 113, wherein said antibody is a single chain Fv ("scFv").

116. (Previously presented) An antibody of claim 115, wherein said scFv has V<sub>H</sub> and V<sub>L</sub> chains joined by a peptide linker.

117. (Previously presented) An antibody of claim 116, wherein said peptide linker has the sequence of SEQ ID NO:6.

118. (Previously presented) An scFv of claim 115, wherein said scFv has the sequence shown in Figure 1 (SEQ ID NO:5).

119. (Previously presented) An antibody of claim 113, which is a disulfide stabilized Fv ("dsFv").

Appl. No. 09/581,345  
Amdt. dated May 28, 2004  
Amendment under 37 CFR 1.116 Expedited Procedure  
Examining Group

PATENT

120. (Currently amended) A dsFv of claim 119, ~~having a V<sub>L</sub> chain containing a cysteine at position 42, 43, 44, 45, 46, 98, 99, 100, or 101, such positions being determined in accordance with the numbering scheme published by Kabat and Wu, and a V<sub>H</sub> chain containing a cysteine at position 43, 44, 45, 46, 47, 103, 104, 105 or 106, comprising a V<sub>L</sub> chain paired with a V<sub>H</sub> chain, said chains being connected through a disulfide bond between a pair of cysteines, said pair of cysteines being positioned in the respective chains at positions selected from the group consisting of: V<sub>H</sub>44-V<sub>L</sub>100; V<sub>H</sub>105-V<sub>L</sub>43; V<sub>H</sub>105-V<sub>L</sub>42; V<sub>H</sub>44-V<sub>L</sub>101; V<sub>H</sub>106-V<sub>L</sub>43; V<sub>H</sub>104-V<sub>L</sub>43; V<sub>H</sub>44-V<sub>L</sub>99; V<sub>H</sub>45-V<sub>L</sub>98; V<sub>H</sub>46-V<sub>L</sub>98; V<sub>H</sub>103-V<sub>L</sub>43; V<sub>H</sub>103-V<sub>L</sub>44, such positions being determined in accordance with the numbering scheme of Kabat and Wu.~~

121. (Previously presented) An antibody of claim 113, wherein said V<sub>H</sub> and V<sub>L</sub> chains are encoded by SEQ ID NO:1.

122. Canceled.

123. (Previously presented) An antibody of claim 113, further wherein said antibody is labeled with a detectable label.

124. (Previously presented) An scFv of claim 115, further wherein said scFv is labeled with a detectable label.

125. (Previously presented) A dsFv of claim 119, which dsFv is labeled with a detectable label.

126. (Previously presented) An antibody of claim 113, further wherein said antibody is attached or fused to a therapeutic agent.

Appl. No. 09/581,345  
Amdt. dated May 28, 2004  
Amendment under 37 CFR 1.116 Expedited Procedure  
Examining Group

PATENT

127. (Previously presented) An scFv of claim 115, further wherein said scFv is attached or fused to a therapeutic agent.

128. (Previously presented) A dsFv of claim 119, further wherein said dsFv is attached or fused to a therapeutic agent.

129. (Previously presented) An antibody of claim 126, wherein said therapeutic agent is a toxin.

130. (Previously presented) An scFv of claim 127, wherein said therapeutic agent is a toxin.

131. (Previously presented) A dsFv of claim 128, further wherein said therapeutic agent is a toxin.

132. (Previously presented) An antibody of claim 129, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

133. (Previously presented) An scFv of claim 130, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

134. (Previously presented) A dsFv of claim 131, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

135. (Previously presented) An isolated anti-mesothelin antibody comprising a variable heavy ("V<sub>H</sub>") chain which V<sub>H</sub> chain has complementarity-determining regions as set forth in Figure 1 (SEQ ID NO:5).

Appl. No. 09/581,345  
Amdt. dated May 28, 2004  
Amendment under 37 CFR 1.116 Expedited Procedure  
Examining Group

PATENT

136. (Previously presented) An antibody of claim 135, wherein said V<sub>H</sub> chain has the sequence set forth in Figure 1 (SEQ ID NO:5).

137. (Previously presented) An antibody of claim 135, wherein said antibody is attached or fused to a therapeutic agent or detectable label.

138. (Previously presented) An antibody of claim 135, wherein said therapeutic agent is a toxin.

139. (Previously presented) An antibody of claim 138, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

140. (Previously presented) An isolated anti-mesothelin antibody comprising a variable light ("V<sub>L</sub> ") chain which V<sub>L</sub> chain has complementarity-determining regions as set forth in Figure 1 (SEQ ID NO:5).

141. (Previously presented) An antibody of claim 140, wherein said V<sub>L</sub> chain has the sequence set forth in Figure 1 (SEQ ID NO:5).

142. (Previously presented) An antibody of claim 140, wherein said antibody is attached or fused to a therapeutic agent or detectable label.

143. (Previously presented) An antibody of claim 142, wherein said therapeutic agent is a toxin.

144. (Previously presented) An antibody of claim 143, wherein said toxin is a *Pseudomonas* exotoxin or cytotoxic fragment or mutant thereof.

Appl. No. 09/581,345  
Amdt. dated May 28, 2004  
Amendment under 37 CFR 1.116 Expedited Procedure  
Examining Group

PATENT

145. (Previously presented) A composition comprising a pharmaceutically acceptable carrier and an immunoconjugate which comprises a therapeutic agent or a detectable label attached or fused to an anti-mesothelin antibody comprising a variable heavy ("V<sub>H</sub>") chain and a variable light ("V<sub>L</sub>") chain, which V<sub>H</sub> and V<sub>L</sub> chains have complementarity-determining regions ("CDRs") as set forth in Figure 1 (SEQ ID NO:5).

146. (Previously presented) A composition of claim 145, wherein said V<sub>H</sub> and V<sub>L</sub> chains comprise framework regions ("FRs") as shown in Figure 1 (SEQ ID NO:5).

147. (Previously presented) A composition of claim 145, wherein said antibody is a single chain Fv ("scFv").

148. (Previously presented) A composition of claim 147, wherein said scFv has V<sub>H</sub> and V<sub>L</sub> chains joined by a peptide linker.

149. (Previously presented) A composition of claim 145, wherein said peptide linker has the sequence of SEQ ID NO:6.

150. (Previously presented) A composition of claim 147, wherein said scFv has the sequence shown in Figure 1 (SEQ ID NO:5).

151. (Previously presented) A composition of claim 145, wherein said antibody is a disulfide stabilized Fv ("dsFv").

152. (Previously presented) A composition of claim 145, wherein said therapeutic agent is a toxin.

Appl. No. 09/581,345  
Amdt. dated May 28, 2004  
Amendment under 37 CFR 1.116 Expedited Procedure  
Examining Group

PATENT

153. (Previously presented) A composition of claim 152, wherein said toxin is a modified *Pseudomonas* exotoxin or a cytotoxic fragment or mutant thereof.

154. (Previously presented) A composition comprising a pharmaceutically acceptable carrier and an immunoconjugate which comprises a therapeutic agent or a detectable label attached or fused to an anti-mesothelin antibody comprising a variable heavy ("V<sub>H</sub>") chain having complementarity-determining regions ("CDRs") as set forth in Figure 1 (SEQ ID NO:5).

155. (Previously presented) A composition of claim 154, wherein said V<sub>H</sub> chain comprises framework regions ("FRs") as set forth in Figure 1 (SEQ ID NO:5).

156. (Previously presented) A composition of claim 154, wherein said therapeutic agent is a toxin.

157. (Previously presented) A composition of claim 154, wherein said toxin is a modified *Pseudomonas* exotoxin or a cytotoxic fragment or mutant thereof.

158. (Previously presented) A composition comprising a pharmaceutically acceptable carrier and an immunoconjugate which comprises a therapeutic agent or a detectable label attached or fused to an anti-mesothelin antibody comprising a variable light ("V<sub>L</sub>") chain having complementarity-determining regions ("CDRs") as set forth in Figure 1 (SEQ ID NO:5).

159. (Previously presented) A composition of claim 158, wherein said V<sub>L</sub> chain comprises framework regions ("FRs") as set forth in Figure 1 (SEQ ID NO:5).

160. (Previously presented) A composition of claim 158, wherein said therapeutic agent is a toxin.

Appl. No. 09/581,345  
Amdt. dated May 28, 2004  
Amendment under 37 CFR 1.116 Expedited Procedure  
Examining Group

PATENT

161. (Previously presented) A composition of claim 158, wherein said toxin is a modified *Pseudomonas* exotoxin or a cytotoxic fragment or mutant thereof.

162. (Previously presented) A kit for detecting mesothelin on the surface of cells, said kit comprising:

(i) anti-mesothelin antibody comprising a variable heavy ( $V_H$ ) chain and a variable light (" $V_L$ ") chain, which  $V_H$  and  $V_L$  chains have complementarity-determining regions ("CDRs") as set forth in Figure 1 (SEQ ID NO:5); and,

(ii) instructions printed on a tangible medium, said instructions describing methods of using and said antibody for detecting mesothelin on the surface of cells.

163. (Previously presented) A kit of claim 162, wherein said  $V_H$  and  $V_L$  chains of said antibody have the sequence set forth in Figure 1 (SEQ ID NO:5).

164. (Previously presented) A kit of claim 162, wherein said antibody is a scFv.

165. (Previously presented) A kit of claim 164, wherein said scFv has the sequence set forth in SEQ ID NO:5.